

CLAIMS

1. A grinding diamond disc comprising:
a plurality of diamond grains bound on a grinding surface of the disc,
wherein a distance between diamond grains which are located forward and rearward in a rotational direction on a common rotational track is set longer than a distance between diamond grains which are located on adjacent rotational tracks in a radial direction of the disc so as to be close to each other.

2. The grinding diamond disc according to claim 1, wherein the plurality of diamond grains are arranged regularly.

3. The grinding diamond disc according to claim 2, wherein the plurality of diamond grains are arranged regularly in such a manner that a gap formed between diamond grains which are located on the adjacent rotational tracks and are located forward and rearward so as to be close to each other in the rotational direction is configured to extend continuously from an outer periphery of a center region to a peripheral edge region, and the gap extends continuously in such a manner that an outer diameter end thereof deviates from an inner diameter end thereof such that the inner diameter end is located forward in the rotational direction and the outer diameter end is located rearward in the rotational direction.

4. The grinding diamond disc according to claim 3, wherein the gap is configured to extend continuously in a swirl shape such that the outer diameter end of the gap deviates from the inner diameter end by 20 degrees or more.
5. A grinding diamond disc comprising:
a plurality of diamond grains bound on a grinding portion of the disc, wherein
the plurality of diamond grains are bound on the grinding portion in such a manner that a plurality of adjacent diamond grains are patterned in a predetermined configuration to form diamond group units which are arranged regularly on the grinding portion.
6. The grinding diamond disc according to claim 5, wherein the diamond group units are oriented in different directions according to grinding loads of the diamond grains.
7. The grinding diamond disc according to claim 5 or 6, wherein the grinding portion is formed by a substantially flat or round face, and the diamond group units are arranged continuously in a swirl shape from an inner diameter end side of the grinding portion to an outer diameter end side thereof.
8. The grinding diamond disc according to any one of claims 5 to 7, wherein the grinding portion is formed by a substantially flat or round

face, and the diamond group units are arranged to have a gap which gradually decreases toward the outer diameter end of the grinding portion.

9. The grinding diamond disc according to any one of claims 5 to 8, wherein the diamond group units are each formed by three diamond grains arranged in a triangle shape.

10. A grinding diamond disc comprising:

a plurality of diamond grains which are bound on a region of a disc surface from an outer diameter side of a center region to a peripheral edge region, and are not bound on the center region, wherein

a plurality of diamond grains are arranged to form a character or a graphic drawn in a pointillist manner in at least a part of the disc surface.

11. The grinding diamond disc according to claim 10, wherein the disc surface to which the plurality of diamond grains are bound includes a center side region and a peripheral side region located on an outer periphery of the center side region, and the diamond grains are arranged to form the character or the graphic drawn in the pointillist manner in the center side region.

12. A grinding diamond disc having a mounting hole formed in a center region recessed backward to have a predetermined depth to

thereby allow the grinding diamond disc to be mounted to a rotation device; the grinding diamond disc comprising:

a plurality of diamond grains bound on a region of the disc surface which is located radially outward relative to the recessed region, wherein

the diamond grains are bound from an outer peripheral edge region of the disc surface to an outer peripheral edge region of a back surface of the disc.

13. The grinding diamond disc according to claim 12, wherein the outer peripheral region of the back surface of the disc forms a rounded surface which protrudes backward.

14. The grinding diamond disc according to claim 12 or 13, wherein the diamond grains are bound from the outer peripheral edge region of the disc surface to the outer peripheral edge region of the back surface with a uniform density over an entire circumference.

15. A grinding diamond disc which is circular in a front view, the grinding diamond disc having a mounting hole formed in a center region of a disc surface thereof, the grinding diamond disc comprising:

a protruding portion formed at a peripheral edge of the grinding diamond disc and configured to protrude forward and backward, wherein the diamond grains are bound on the protruding portion.

16. The grinding diamond disc according to claim 15, wherein the

diamond grains are bound on the protruding portion intermittently.

17. The grinding diamond disc according to claim 15 or 16, wherein an outer peripheral edge of the protruding portion is rounded in a cross-sectional view.